

CLAIMS

1. A nuclear fuel assembly (1) of the type comprising a group of nuclear fuel rods (3) and a support skeleton (5), the assembly comprising:

- 5 · two nozzles (7, 9);
- guide tubes (11) interconnecting the nozzles; and
- spacer grids (13) secured to the guide tubes and serving to hold the rods;

the nuclear fuel rods (3) extending along a longitudinal direction (A) and being disposed in a substantially regular array;

the assembly being characterized in that it includes at least one support skeleton reinforcing device (21) disposed between two successive spacer grids (13) and secured to the guide tubes (11), and in that the reinforcing device (21) is disposed inside the group of rods (3) and presents a transverse extent that is less than the transverse extent (E) of the array of rods (3).

2. An assembly according to claim 1, characterized in that the reinforcing device (21) does not extend into the peripheral layer (19) of rods (3).

3. An assembly according to claim 2, characterized in that the reinforcing device (21) does not extend between the peripheral layer (19) of rods and the adjacent layer (29) of rods.

4. An assembly according to any preceding claim, characterized in that the reinforcing device (21) extends longitudinally substantially as far as the spacer grid (13) immediately above it.

5. An assembly according to any preceding claim, characterized in that the reinforcing device (21) defines at least one transverse flow passage (45; 49) above the spacer grid (13) immediately beneath it, said passage

serving to pass a cooling fluid for flowing through the assembly (1).

6. An assembly according to claim 5, characterized in
5 that the reinforcing device (21) extends longitudinally substantially as far as the spacer grid (13) immediately below it, and in that the passage is formed by an opening (45) formed through the bottom end (43) of the reinforcing device (21).

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7. An assembly according to claim 5, characterized in that the bottom end (43) of the reinforcing device (21) is disposed at a distance from the spacer grid (13) immediately beneath it so as to define the transverse
15 flow passage (49) for the cooling fluid.

8. An assembly according to any preceding claim, characterized in that the reinforcing device (21) is secured to at least two guide tubes (11).

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9. An assembly according to any preceding claim, characterized in that the reinforcing device (21) is a substantially plane plate.

25 10. An assembly according to claim 9, characterized in that the reinforcing device (21) is substantially parallel to one of the faces (6) of the group of nuclear fuel rods (3).

30 11. An assembly according to any one of claims 1 to 8, characterized in that the reinforcing device (21) is an angle member forming at least one L-shape.

12. An assembly according to claim 11, characterized in
35 that the angle member is disposed in a corner of the group of nuclear fuel rods (3).

13. An assembly according to any preceding claim, characterized in that the reinforcing device (21) does not have mixer means for mixing the cooling fluid that is to flow through the assembly.

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14. An assembly according to any preceding claim, characterized in that the reinforcing device (21) does not have means for holding the nuclear fuel rods (3).